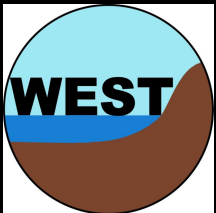
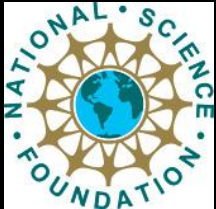


“WEST”

Water, the Environment, Science, and Teaching



An NSF GK-12 Program at the University of Utah

The WEST Program



Goals of WEST

Foster INQUIRY based learning.

Improve COMMUNICATION, teaching and team building skills for graduate students.

Provide professional DEVELOPMENT opportunities for K-12 teachers.

Generate productive MENTORING relationships between fellows and students.

Develop a series of PLACE BASED projects that communicate the place of humans in nature.

Build a broad network of COLLABORATORS that are invested in the success of the program.



Where is WEST?

Wasatch Mountains

U

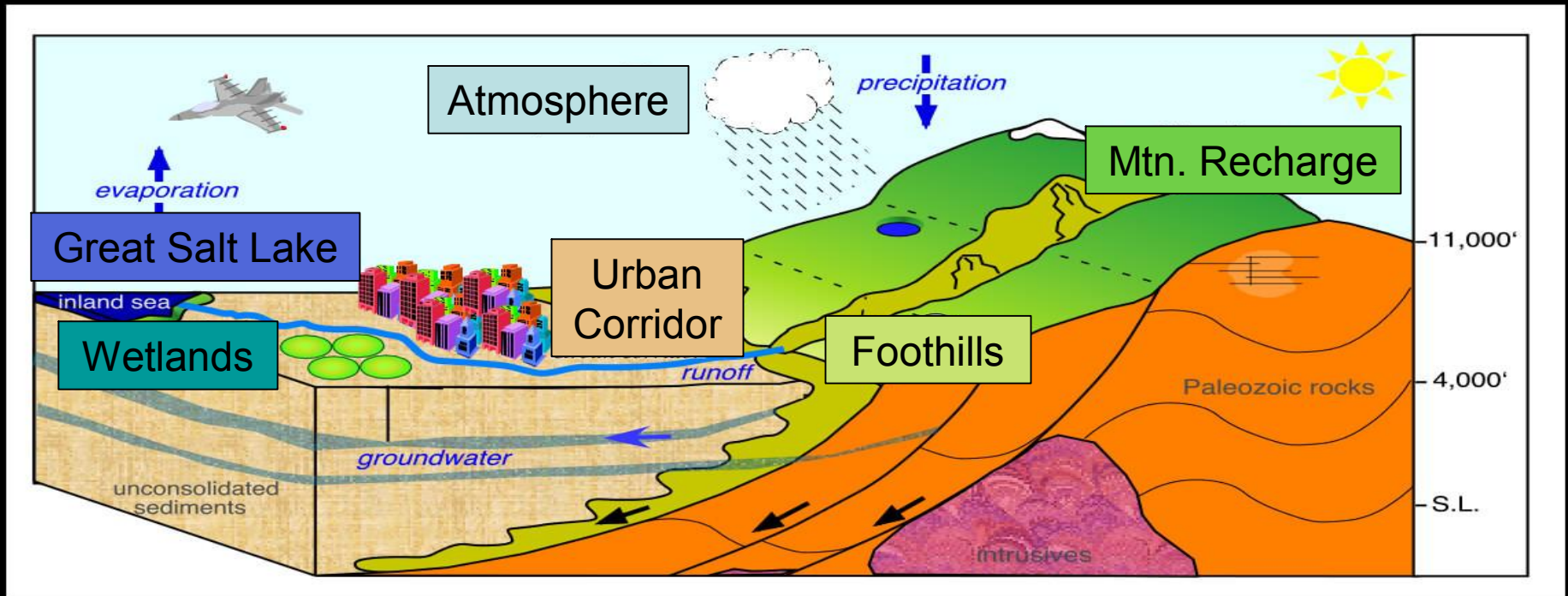


*Iron and Beaver
Counties*

*Great Salt
Lake*

*This Year:
Duchesne, Grand,
Summit and Wayne
Counties*

WEST Themes



- Local hydrological cycle
- Interactions between the earth, atmosphere, hydrosphere, and biosphere
- Humans' role in nature

School Activities and Field Trips

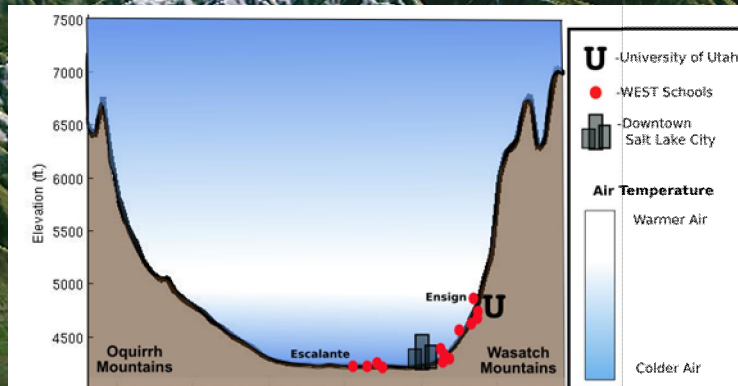


WEST's Earthscape

Alta



Faultline Park, 400 S. between 1000 and 1300 East in SLC is located on the fault scarp



Temperature Inversion Schematic for SL Valley

Heavy Metal Bioaccumulation in Great Salt Lake

Great Salt Lake

Quicktime™ and a
Hove decompressor
are needed to see this picture.

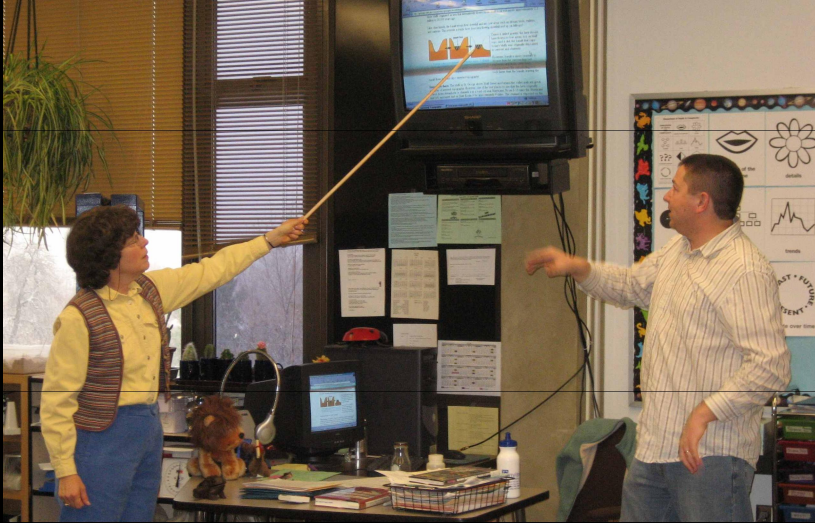
Benefits to Students



- Hands-on and inquiry-based projects
- Experience with the scientific method
- Graduate student role models
- Exposure to careers in the sciences



Benefits to Teachers



- Scientist in the classroom
- Professional development tools
- Resources and new ideas for science projects
- Deeper understanding of scientific research



Benefits to Fellows



- Improved science communication skills
- Increased understanding of pedagogic methods
- Experience with interdisciplinary collaboration
- Better understanding of the challenges faced by K-12 educators

A photograph of a sunset over a large body of water, likely the Great Salt Lake. The sun is low on the horizon, creating a bright, vertical reflection on the water's surface. The sky is filled with soft, orange and yellow clouds, and the water reflects these colors. The overall scene is peaceful and scenic.

Great Salt Lake Water Quality Project and WEST

A Proposed Science Education
and Outreach Partnership

Project Overview

Opportunity for students to:

- study the unique ecosystem of the GSL
- conduct actual research on a boat
- contribute data to an ongoing project

Core Curriculum

Themes

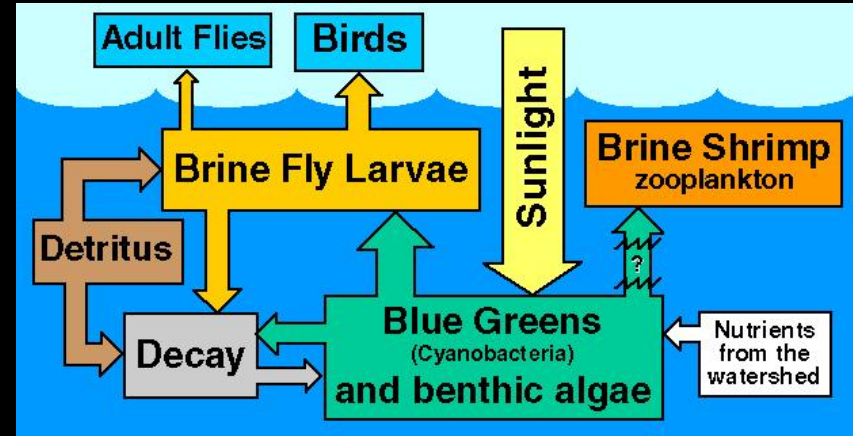
- Utah Natural History
- Cycles

Standards

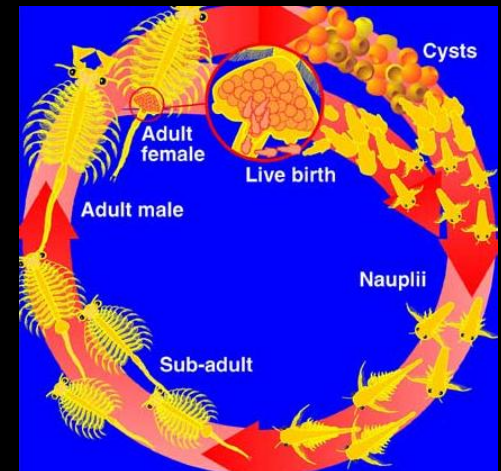
- Water cycle: *evaporation, accumulation, pollution*
- Utah habitats: *lake, wetland, and desert ecology*
- Weather: *observations, role of GSL*

ILO's

- Develop critical thinking skills
- Manifest scientific attitude and interest
- Communicate with science language and reasoning



<http://ut.water.usgs.gov/plankton/images/benthic2.gif>



<http://ut.water.usgs.gov/shrimp/images/lifecycle2.jpg>

Great Salt Lake Field Trip



http://www.gslcruises.com/salt/index.php?option=com_content&task=category§ionid=5&id=18&Itemid=39

- Full day field trip this fall starting from GSL Marina
- 2 classes (~60 students)
- ~1 hour of onshore activities (FoGSL Lakeside Learning)
- ~3 hours on boat
 - Four stations while in transit

Science

Onshore

- Intro to GSL
- Map exercise
- Bonneville shorelines
- Pearls of Poop: GSL ooids
- Brine shrimp sampling/observation
- Food web (algae, brine flies, brine shrimp, birds)

Cruise - In Transit

- Real time navigation (GPS & charts)
- Net tow and stereoscope observations
- Optical brightener and cyanobacteria
- Bathymetry

Cruise - Moored Station

- Sample deep brine layer for water chemistry



Long Term Activities

- Data collected during cruises contributes to research.
- DEQ, USGS, and U of U data available online.
- Project connects students to local water, environmental, and economic issues.
- Links to science fair and classroom projects.



GSL Water Quality Project and WEST

Benefits of a Partnership

Teachers and Students: Interactions with scientists and real-life experience collecting and analyzing data.

WEST: Connections to various entities engaged in the science and policy of water and the environment.

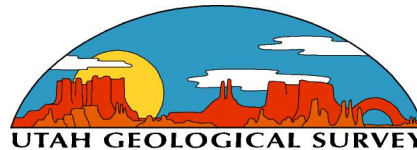
Great Salt Lake Water Quality Project: Opportunity to engage in outreach to the community through WEST's connection with K-12 schools.



Collaborators



QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.



Save Our Canyons



Guadalupe School



**Salt Lake City
Public Utilities**



Sustainability



<u>Source of Fellowships</u>	<u>Number</u>
Endowed fellowships (Colleges, Departments)	2
University/Graduate School	2
Utah Museum of Natural History	1
Pooled “Broader Impacts”	3
Corporate and Private Sector	2
<hr/>	
Total	10

A Last Word From the Kids...

"I learned more about science than I have ever learned before"

"You made science not complicated and helped me figure out how things work around me"

"At first when you came I didn't get it but when you did experiments it made me understand"



"I believe that I will make a difference in the world and will find a dinosaur and also name one"